

FIELD OFFICE TECHNICAL GUIDE Sec. II
ENGINEERING INTERPRETATIONS

Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Appanoose County, Iowa

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
7A: WIOTA-----	---	> 80	---	---	---	---	High-----	Moderate----	Moderate.
13B: OLMITZ-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
COLO-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
VESSER-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
24D2: SHELBY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
24D3: SHELBY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
24E2: SHELBY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
24E3: SHELBY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
51A: VESSER-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
51B: VESSER-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
54A: ZOOK-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
54B: ZOOK-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
56B: CANTRIL-----	---	> 80	---	---	---	---	High-----	Moderate----	Low.

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	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
65E2: LINDLEY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
65E3: LINDLEY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
65F: LINDLEY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
65F2: LINDLEY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
65F3: LINDLEY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
65G2: LINDLEY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
93D2: ADAIR-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
SHELBY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
93D3: ADAIR-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
SHELBY-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
94D2: MYSTIC-----	---	> 80	---	---	---	---	High-----	Moderate----	Moderate.
CALEB-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
94D3: MYSTIC-----	---	> 80	---	---	---	---	High-----	Moderate----	Moderate.
CALEB-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.

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	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
94E2:		In	In		In	In			
MYSTIC-----	---	> 80	---	---	---	---	High-----	Moderate----	Moderate.
CALEB-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
94E3:									
MYSTIC-----	---	> 80	---	---	---	---	High-----	Moderate----	Moderate.
CALEB-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
130:									
BELINDA-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
131B:									
PERSHING-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
131C:									
PERSHING-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
131C2:									
PERSHING-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
132B:									
WELLER-----	---	> 80	---	---	---	---	High-----	High-----	High.
132B2:									
WELLER-----	---	> 80	---	---	---	---	High-----	High-----	High.
132C2:									
WELLER-----	---	> 80	---	---	---	---	High-----	High-----	High.
132D2:									
WELLER-----	---	> 80	---	---	---	---	High-----	High-----	High.
133+:									
COLO-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.

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	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
133A: COLO-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
133B: COLO-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
172: WABASH-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
179D2: GARA-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
179D3: GARA-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
179E: GARA-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
179E2: GARA-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
179E3: GARA-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
179F2: GARA-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
192C: ADAIR-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
192C2: ADAIR-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
192D2: ADAIR-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
208: LANDES VARIANT----	---	> 80	---	---	---	---	Moderate----	Low-----	Low.

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Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
211: EDINA-----	---	> 80	---	---	---	---	Moderate---	High-----	Moderate.
220: NODAWAY-----	---	> 80	---	---	---	---	High-----	Moderate---	Low.
222C: CLARINDA-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
222C2: CLARINDA-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
222C3: CLARINDA-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
222D2: CLARINDA-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
260: BECKWITH-----	---	> 80	---	---	---	---	Moderate---	High-----	Moderate.
261: APPANOOSE-----	---	> 80	---	---	---	---	Moderate---	High-----	Moderate.
269A: HUMESTON-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
269B: HUMESTON-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
273B: OLMITZ-----	---	> 80	---	---	---	---	Moderate---	Moderate---	Moderate.
312B: SEYMOUR-----	---	> 80	---	---	---	---	Moderate---	High-----	Moderate.
312C2: SEYMOUR-----	---	> 80	---	---	---	---	Moderate---	High-----	Moderate.

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Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
313D2: GOSPORT-----	Bedrock (paralithic)	20- 40	---	---	---	---	Moderate----	High-----	High.
CLANTON-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
313E2: GOSPORT-----	Bedrock (paralithic)	20- 40	---	---	---	---	Moderate----	High-----	High.
CLANTON-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
313F2: GOSPORT-----	Bedrock (paralithic)	20- 40	---	---	---	---	Moderate----	High-----	High.
CLANTON-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
315: NODAWAY-----	---	> 80	---	---	---	---	High-----	Moderate----	Low.
ALLUVIAL LAND----	---	---	---	---	---	---	Low-----	Low-----	Moderate.
354: MARSH-----	---	---	---	---	---	---	---	---	---
362: HAIG-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
364B: GRUNDY-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
406: KENNEBEC-----	---	> 80	---	---	---	---	High-----	Moderate----	Low.
AMANA-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.

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	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
413D2: SOGN-----	Bedrock (lithic)	4- 20	---	---	---	---	Moderate---	Low-----	Low.
CLANTON-----	---	> 80	---	---	---	---	Moderate---	High-----	Moderate.
GOSPORT-----	Bedrock (paralithic)	20- 40	---	---	---	---	Moderate---	High-----	High.
422: AMANA-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
425C: KESWICK-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
425C2: KESWICK-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
425D: KESWICK-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
425D2: KESWICK-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
425D3: KESWICK-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
452B: LINEVILLE-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
452C: LINEVILLE-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
452C2: LINEVILLE-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
453A: TUSKEEGO-----	---	> 80	---	---	---	---	Moderate---	High-----	Moderate.

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Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
453B: TUSKEEGO-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
467: RADFORD-----	---	> 80	---	---	---	---	High-----	High-----	Low.
520: COPPOCK-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
531B: KNIFFIN-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
531C: KNIFFIN-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
531C2: KNIFFIN-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
532B: RATHBUN-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
532B2: RATHBUN-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
532C: RATHBUN-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
532C2: RATHBUN-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
534: CARLOW-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
587: CHEQUEST-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
592C2: MYSTIC-----	---	> 80	---	---	---	---	High-----	Moderate----	Moderate.

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	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
592C3: MYSTIC-----	---	> 80	---	---	---	---	High-----	Moderate----	Moderate.
592D2: MYSTIC-----	---	> 80	---	---	---	---	High-----	Moderate----	Moderate.
592D3: MYSTIC-----	---	> 80	---	---	---	---	High-----	Moderate----	Moderate.
752C: LINEVILLE VARIANT--	---	> 80	---	---	---	---	High-----	High-----	Moderate.
752C2: LINEVILLE VARIANT--	---	> 80	---	---	---	---	High-----	High-----	Moderate.
792C2: ARMSTRONG-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
792C3: ARMSTRONG-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
792D2: ARMSTRONG-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
792D3: ARMSTRONG-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
795C2: ASHGROVE-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
795D2: ASHGROVE-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
822D2: LAMONI-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
822D3: LAMONI-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.

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	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
993D2: ARMSTRONG-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
GARA-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
993D3: ARMSTRONG-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
GARA-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
993E2: ARMSTRONG-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
GARA-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
993E3: ARMSTRONG-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
GARA-----	---	> 80	---	---	---	---	Moderate----	Moderate----	Moderate.
5030: MINES AND QUARRIES-	Bedrock (lithic)	0- 4	---	---	---	---	---	---	---
T130: BELINDA-----	---	> 80	---	---	---	---	Moderate----	High-----	Moderate.
T131B: PERSHING-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
T131C: PERSHING-----	---	> 80	---	---	---	---	High-----	High-----	Moderate.
T132B: WELLER-----	---	> 80	---	---	---	---	High-----	High-----	High.
T132C: WELLER-----	---	> 80	---	---	---	---	High-----	High-----	High.